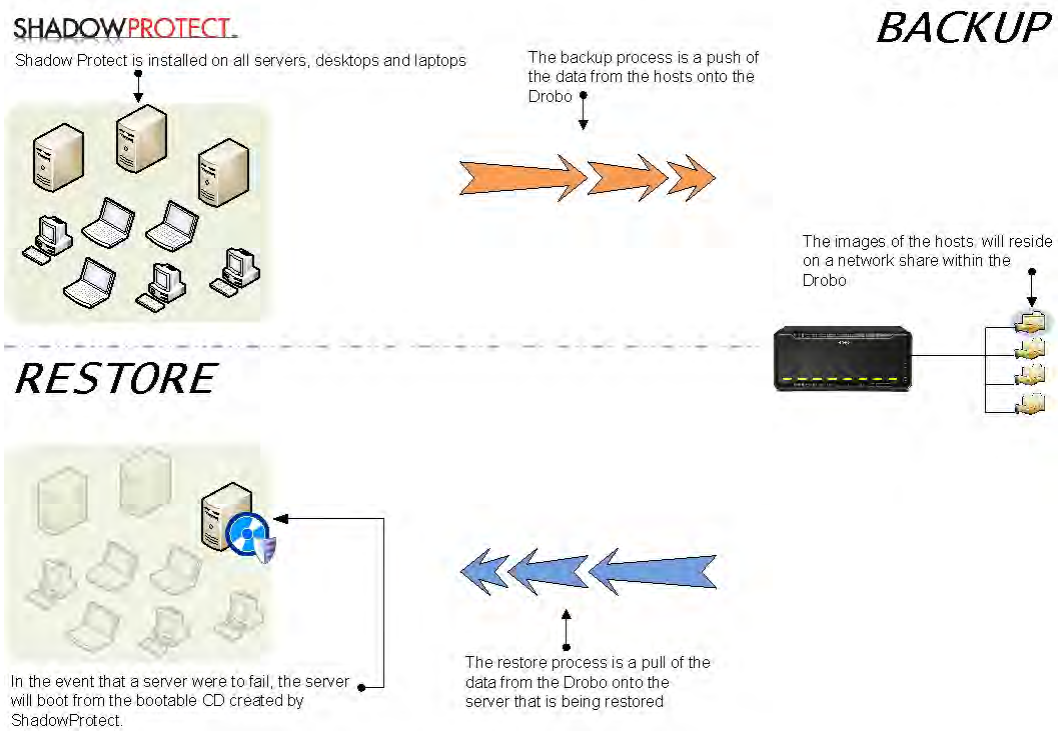
Drobo storage is an excellent backup-to-disk destination when used with StorageCraft ShadowProtect, allowing you to protect critical assets on your Windows servers, workstations, and notebooks. ShadowProtect provides disk-based backup that captures full, differential, and incremental point-in-time backup images of an entire system including the operating system, applications, configuration setting, and data. ShadowProtect has number of flexible recovery options including bare metal recovery, recovery to similar hardware, dissimilar hardware or virtual environments.

This guide describes how to implement a fast and reliable backup and disaster recovery solution using StorageCraft ShadowProtect and Drobo file sharing (FS or B800fs) storage.


SHADOWPROTECT
Shadow Protect is installed on all servers, desktops and laptops
BACKUP
The backup process is a push of the data from the hosts onto the Drobo
The images of the hosts will reside on a network share within the Drobo
RESTORE
In the event that a server were to fail, the server will boot from the bootable CD created by ShadowProtect.
The restore process is a pull of the data from the Drobo onto the server that is being restored

Topics

- Pre-flight checklist
- Create a backup image and save it to the Drobo
- Full bare metal recovery
- Recover to virtual environment (VMware ESX) with hardware-independent restore

What You Will Need

- Drobo file sharing storage system (Drobo FS or Drobo B800i)
- Drobo Dashboard management software (latest version)
- Enterprise-grade 7200 RPM SATA disk drives recommended
- StorageCraft ShadowProtect version 4.1
- If restoring onto a virtual machine, VMware ESXi 4.1 or later

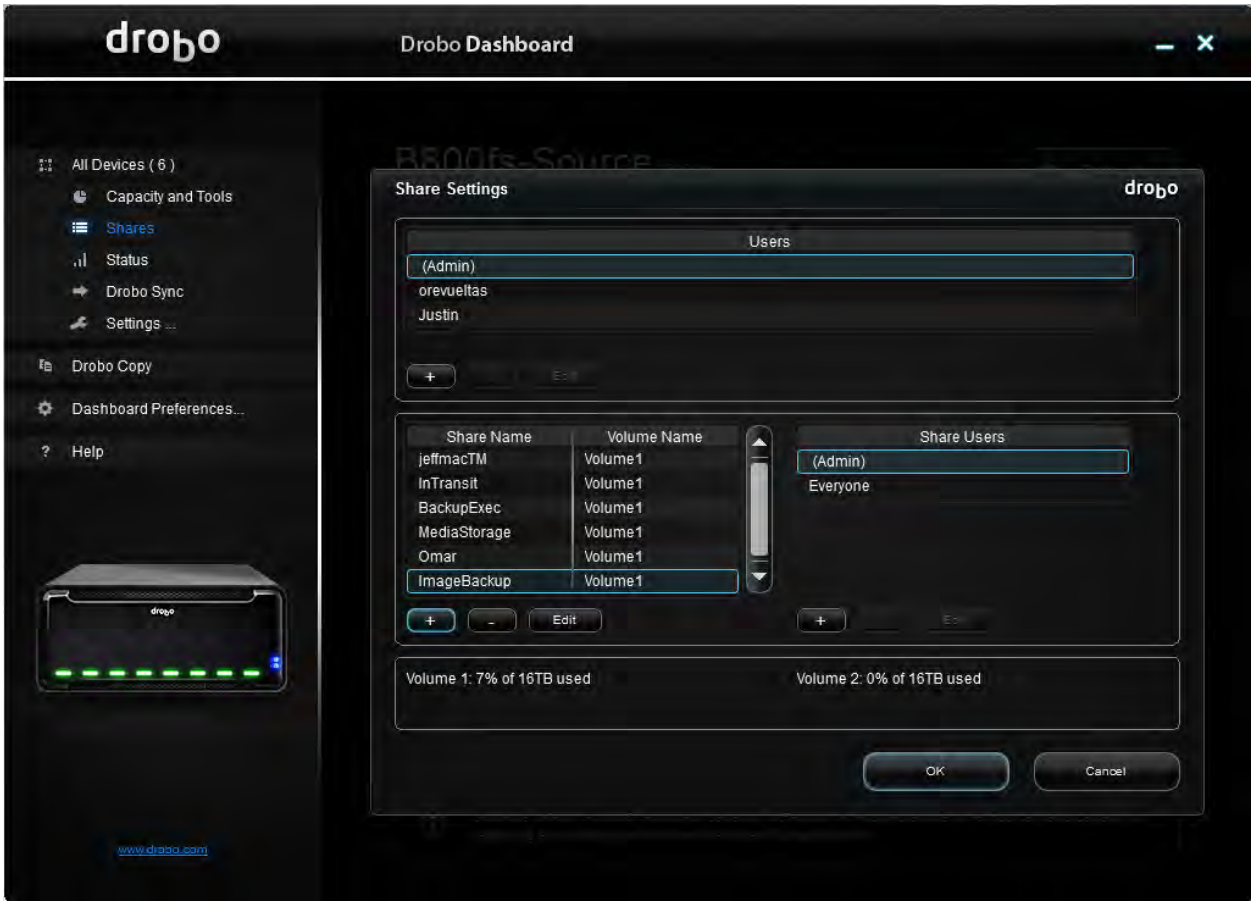
Pre-flight Checklist

In this guide, the Drobo model B800fs is used as the storage repository for the images created by ShadowProtect. With the Drobo B800fs, IT administrator can easily create network shares that can be accessed by Windows and Mac systems using file sharing network protocols (CIFS/SMB, AFP).

In order to create a share on the Drobo to be used as the repository for the backed-up images:

- Click **Shares** and then click **Shares Settings** at the top right.
- Click the plus sign (+) sign to create a new share.

The share hosting the images must be password protected (username and password).

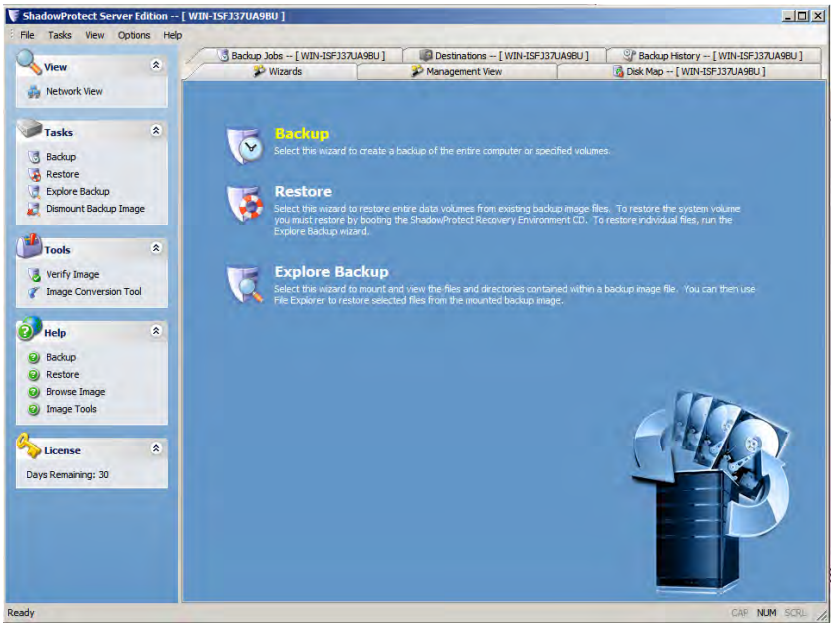


For information on how to create a share and secure it, refer to the *Online User Guide*: http://dashboardhelp.drobo.com/guide/200/en/Drobo_Online_User_Guide.htm

Create a Backup Image and Save It To the Drobo

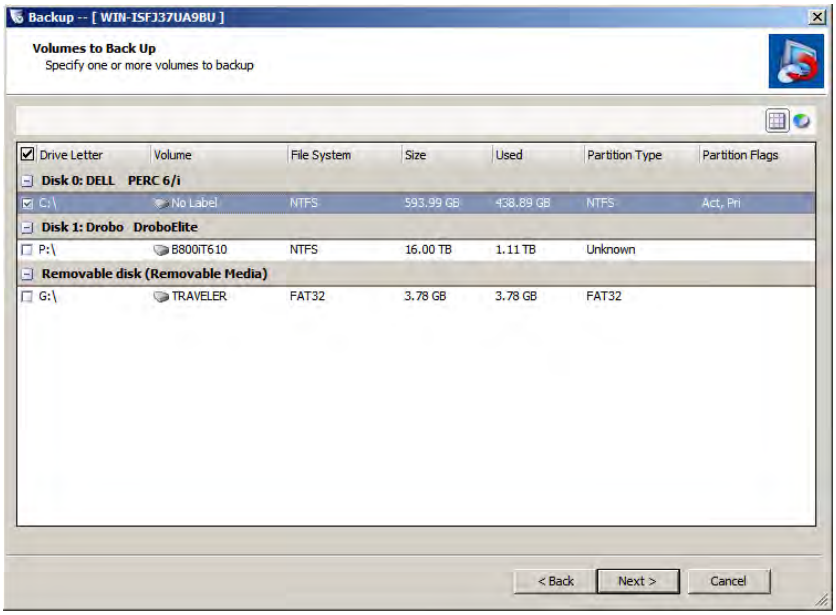
Now that the Drobo is ready to be used as the target for the images, create a backup image.

STEP 1


ShadowProtect Server Edition -- [WIN-ISFJ37UA9BU]
File Tasks View Options Help
View
Network View
Tasks
Backup
Restore
Explore Backup
Dismount Backup Image
Tools
Verify Image
Image Conversion Tool
Help
Backup
Restore
Browse Image
Image Tools
License
Days Remaining: 30
Backup Jobs -- [WIN-ISFJ37UA9BU]
Destinations -- [WIN-ISFJ37UA9BU]
Backup History -- [WIN-ISFJ37UA9BU]
Wizards
Management View
Disk Map -- [WIN-ISFJ37UA9BU]
Backup
Select this wizard to create a backup of the entire computer or specified volumes.
Restore
Select this wizard to restore entire data volumes from existing backup image files. To restore the system volume you must restore by booting the ShadowProtect Recovery Environment CD. To restore individual files, run the Explore Backup wizard.
Explore Backup
Select this wizard to mount and view the files and directories contained within a backup image file. You can then use File Explorer to restore selected files from the mounted backup image.
Ready
CAP NUM SCRL

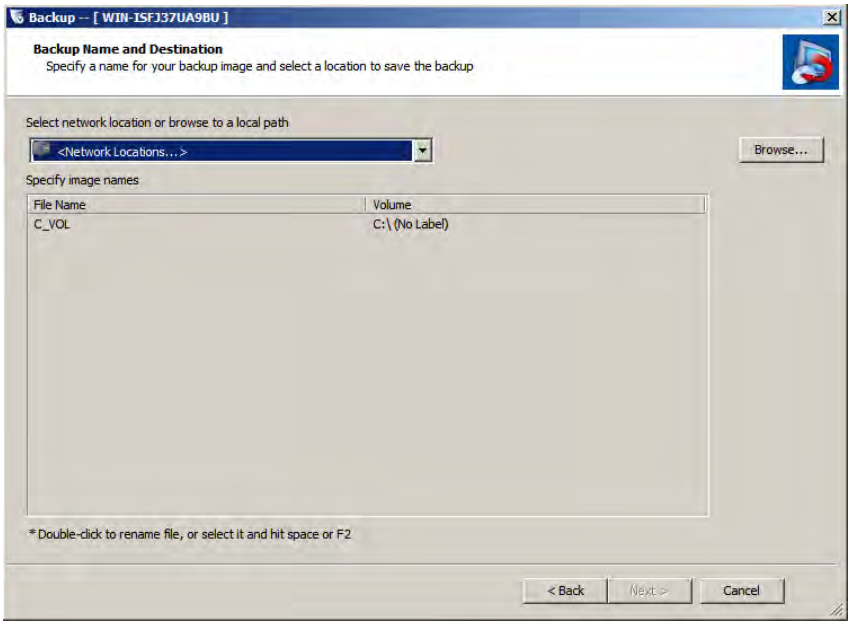
Install ShadowProtect from StorageCraft. For more information refer to the *ShadowProtect Administrator's Guide*. Then launch ShadowProtect and click **Backup** in the Wizards tab.

STEP 2



Select a volume to back up.

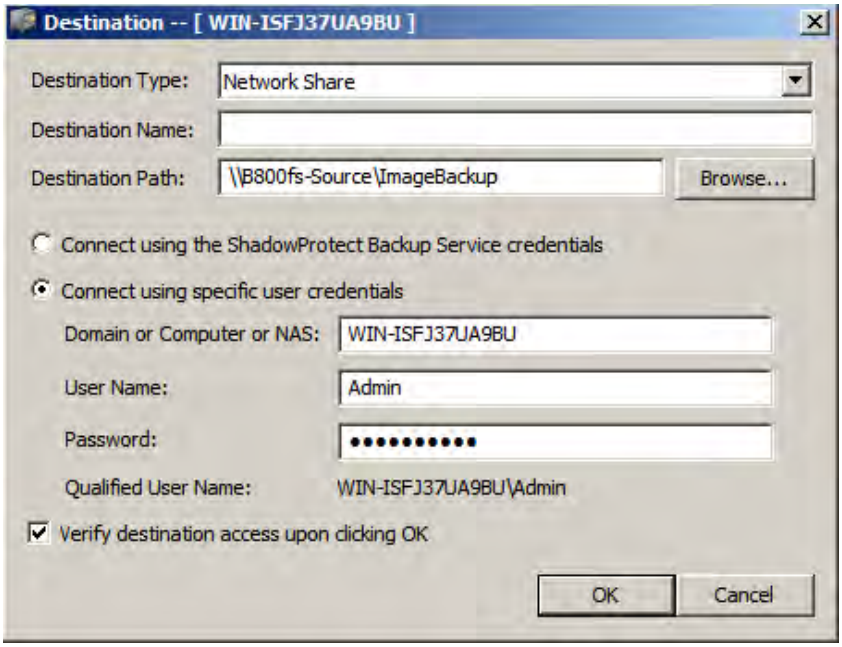
STEP 3


Backup -- [WIN-ISFJ37UA9BU]
Backup Name and Destination
Specify a name for your backup image and select a location to save the backup
Select network location or browse to a local path
<Network Locations...>
Browse...
Specify image names
File Name
Volume
C_VOL
C:\ (No Label)
* Double-click to rename file, or select it and hit space or F2
< Back
Next >
Cancel

Select **Network Locations** to specify a destination.

NOTE: Drobo devices are automatically thin-provisioned. For this reason and because the amount of data can quickly grow in a backup environment, IT administrators should monitor storage utilization in the Drobo.

STEP 4



Type the information for the backup destination, in this case, Drobo information

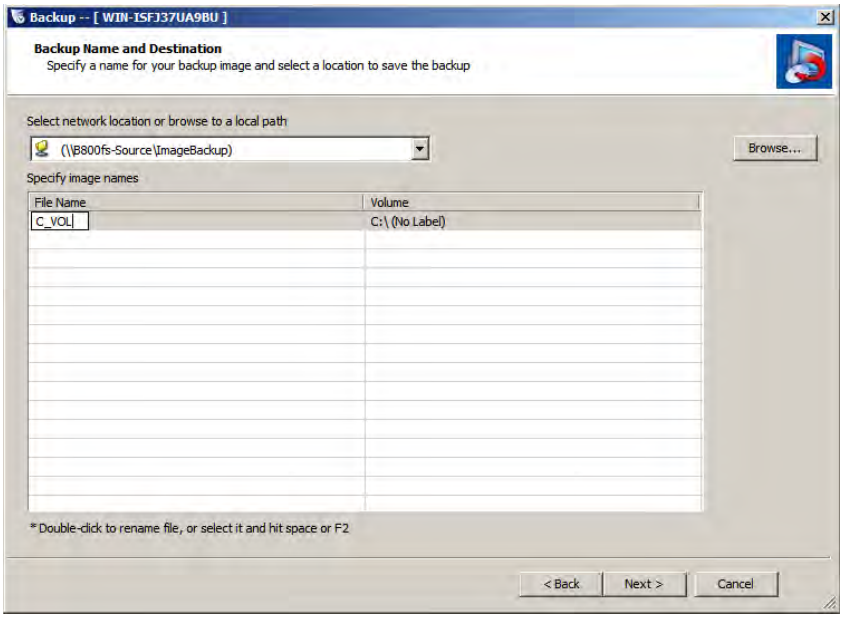
- Destination type: Network Share
- Destination name: (anything)

Destination Path: Path to share created on the Drobo B800fs. You can use the name of the Drobo or the IP address (for example, \\B800fs-Source\ImageBackup or \\172.32.16.50\ImageBackup)

Select "Connect using specific user credentials" and then enter the Drobo B800fs's login account that you set on the share.

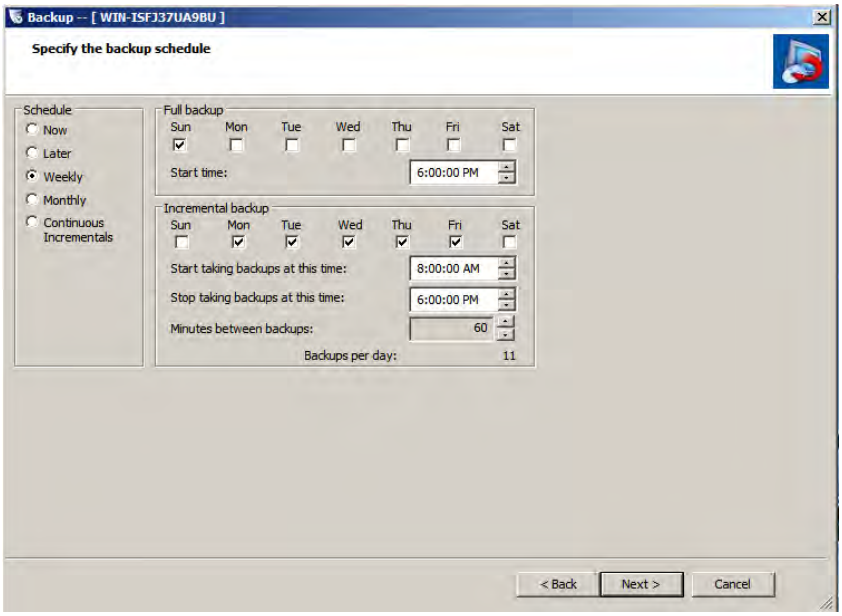
Click **OK** to verify destination access.

STEP 5


Backup -- [WIN-ISFJ37UA9BU]
Backup Name and Destination
Specify a name for your backup image and select a location to save the backup
Select network location or browse to a local path
(\\B800fs-Source\ImageBackup)
Browse...
Specify image names
File Name
Volume
C_VOL
C:\ (No Label)
*Double-click to rename file, or select it and hit space or F2
< Back
Next >
Cancel

Double-click under the image names to rename the file name, that is, the name of the backup image for the volume you will be protecting.

STEP 6



Follow onscreen directions for the rest of installation wizard to create and schedule the backup image job.

It is recommended that you use both full and incremental backups. Refer to the *ShadowProtect Administrator's Guide* for information about the different types of backup schedules—any of which you can use with Drobo.

Full Bare Metal Recovery

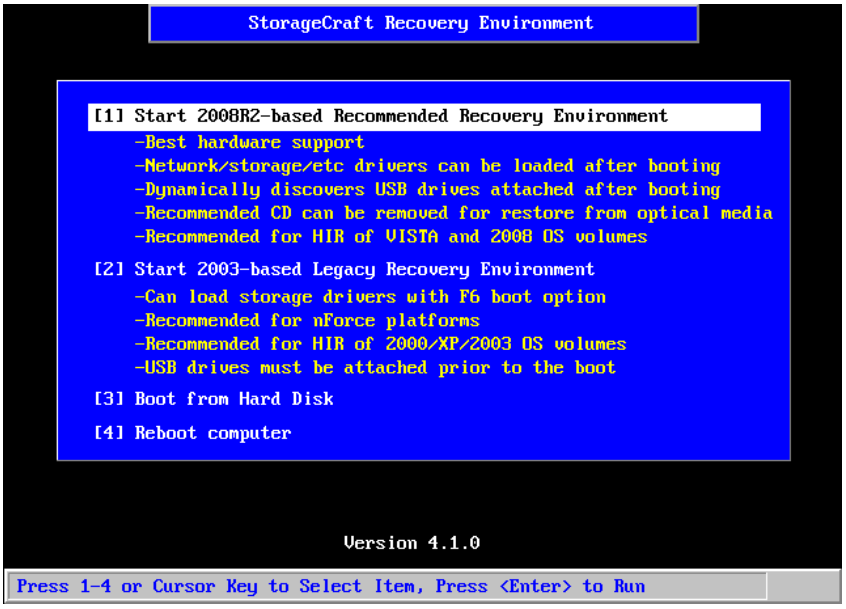
In the event that a host/server were to fail, an IT administrator can easily restore the server from a backed-up image. Booting the server using the bootable Recovery Environment disk, allows ShadowProtect to load its restore engine and pull the backed-up image from across the network. Once the image is pulled and written onto the local server hard drive(s), they will be ready to be rebooted and restored from the backed-up image.

STEP 1

Create a bootable Recovery Environment disk, by using the CD that came with ShadowProtect if you purchased a physical copy or download the ISO image from
http://www.storagecraft.com/release/sprelease.asp

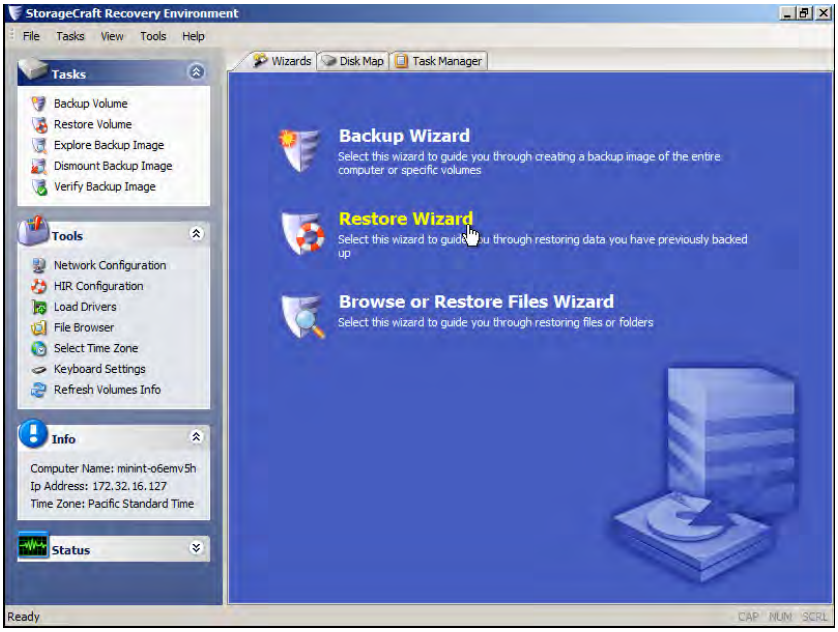
You can use any CD burning application; ISOTool.exe is the ISO burning tool that is included with ShadowProtect.

STEP 2


StorageCraft Recovery Environment
[1] Start 2008R2-based Recommended Recovery Environment
-Best hardware support
-Network/storage/etc drivers can be loaded after booting
-Dynamically discovers USB drives attached after booting
-Recommended CD can be removed for restore from optical media
-Recommended for HIR of VISTA and 2008 OS volumes
[2] Start 2003-based Legacy Recovery Environment
-Can load storage drivers with F6 boot option
-Recommended for nForce platforms
-Recommended for HIR of 2000/XP/2003 OS volumes
-USB drives must be attached prior to the boot
[3] Boot from Hard Disk
[4] Reboot computer
Version 4.1.0
Press 1-4 or Cursor Key to Select Item, Press <Enter> to Run

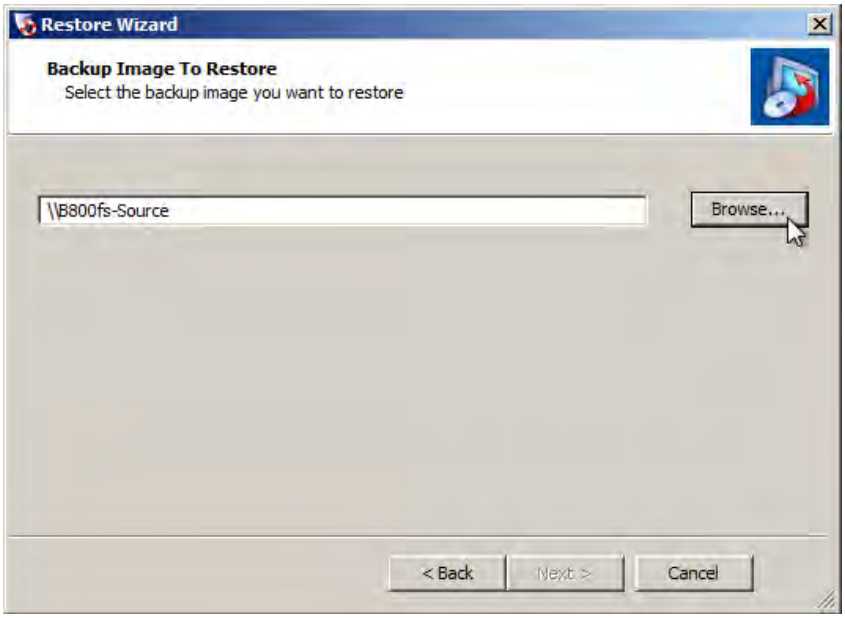
Insert the bootable CD into the server that needs bare metal recovery and select the recovery environment.

STEP 3



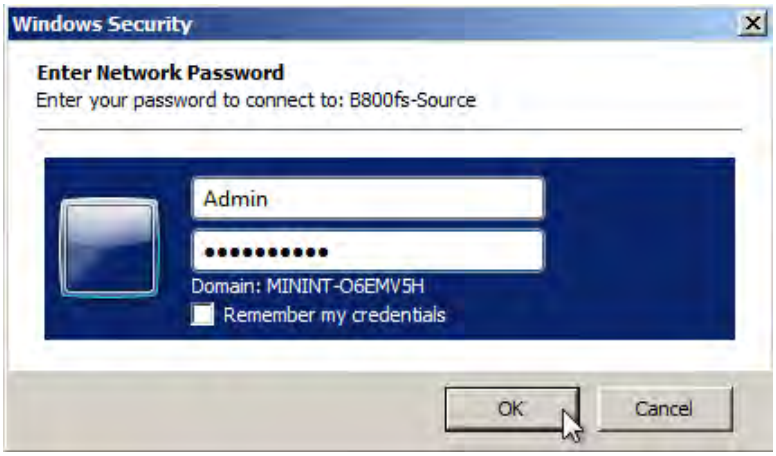
In the Wizards tab, select **Restore Wizard** to begin bare metal recovery.

STEP 4



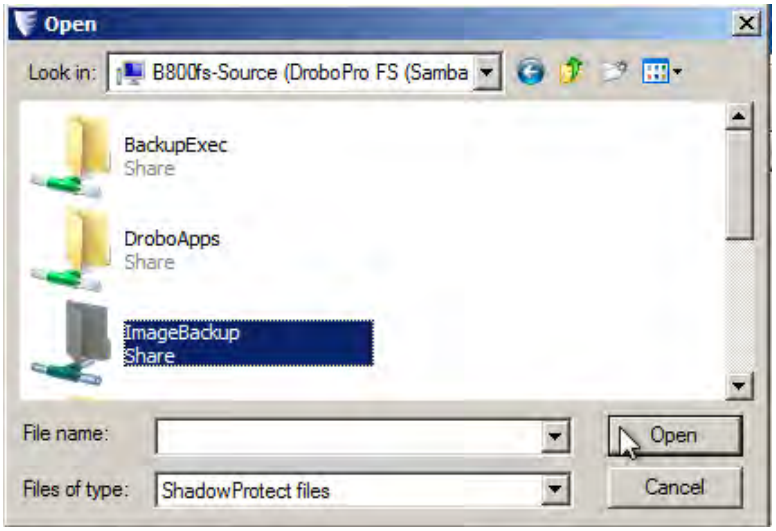
Specify the location of the backup image file, in this case, enter the name of the Drobo B800fs.

STEP 5



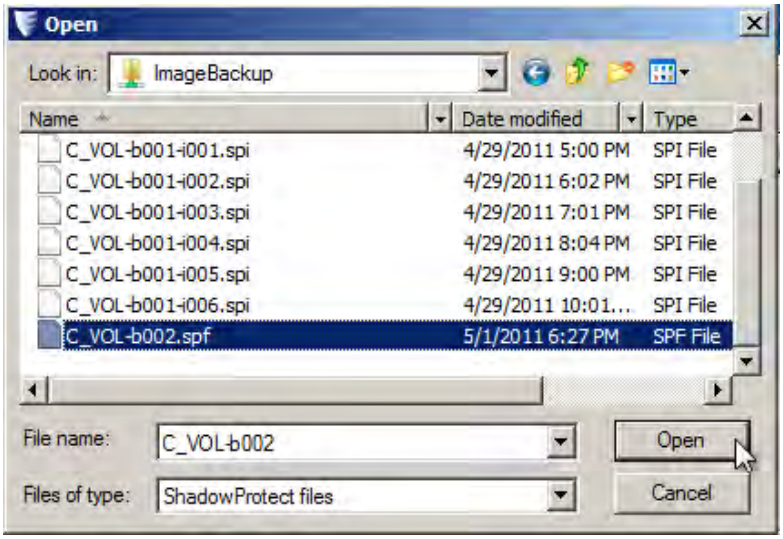
When prompted, enter the login username and password that was set on the share that hosts the images.

STEP 6



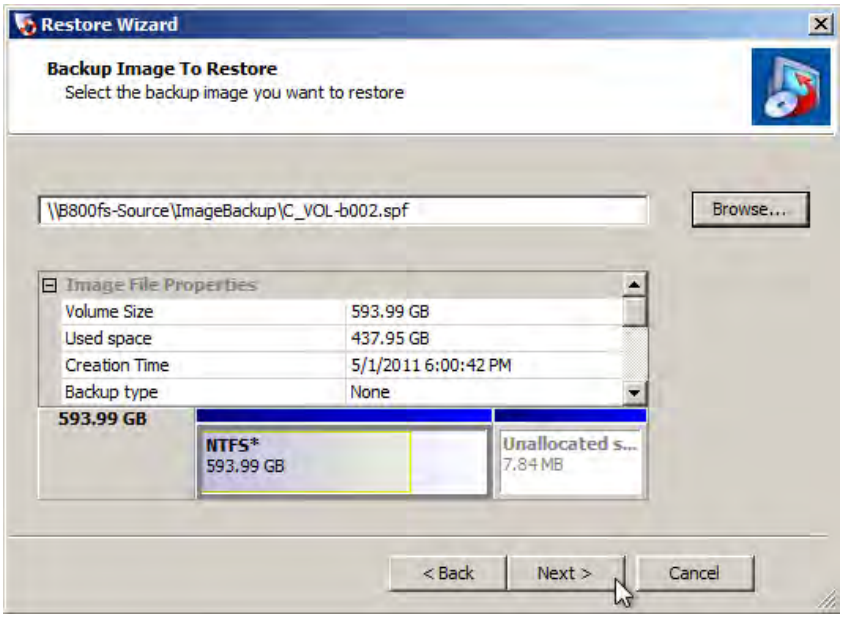
Specify the location of the backup image file.

STEP 7



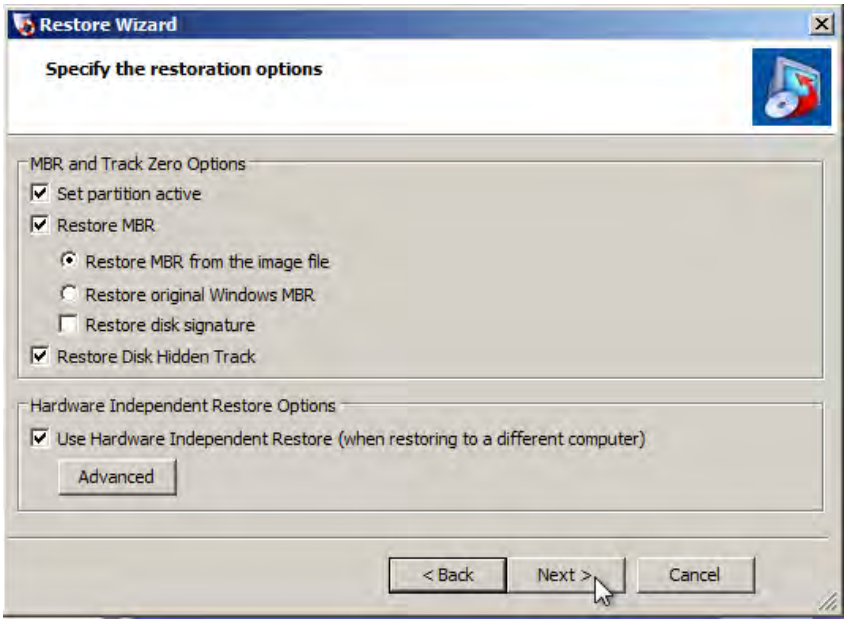
Specify the backup image file, typically it's the most recent one, unless you need to restore from further back in time.

STEP 8

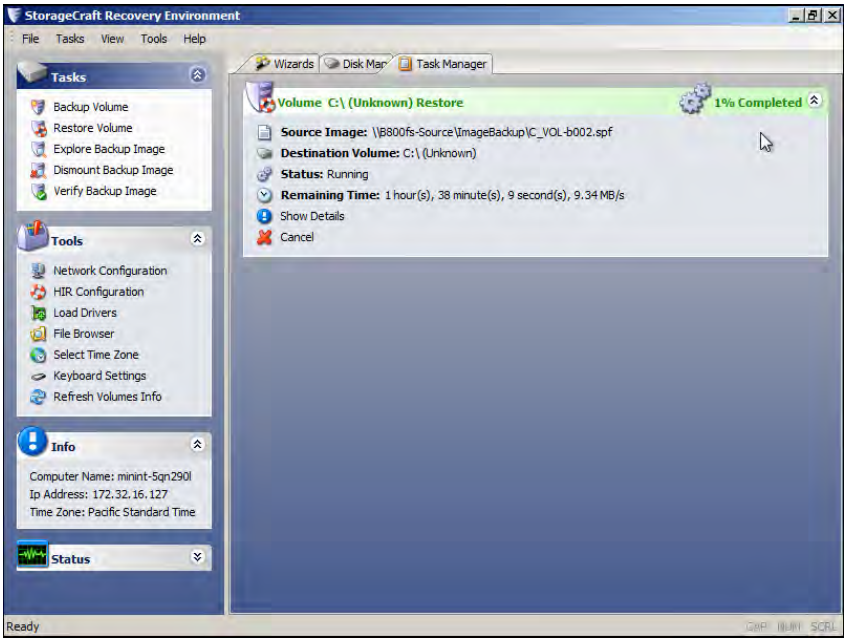


Verify the backup image to restore.

STEP 9



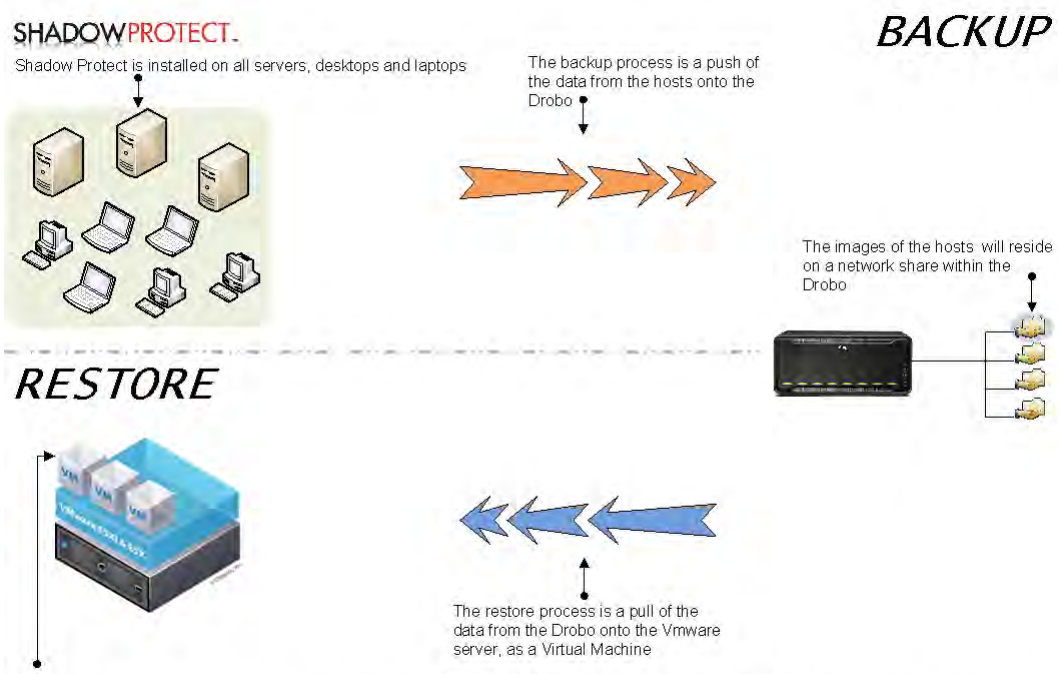
Specify the restore options. It is recommended to leave these settings as default. Refer to the *ShadowProtect Administrator's Guide* for explanations of these options.



The status of the recovery is now displayed.

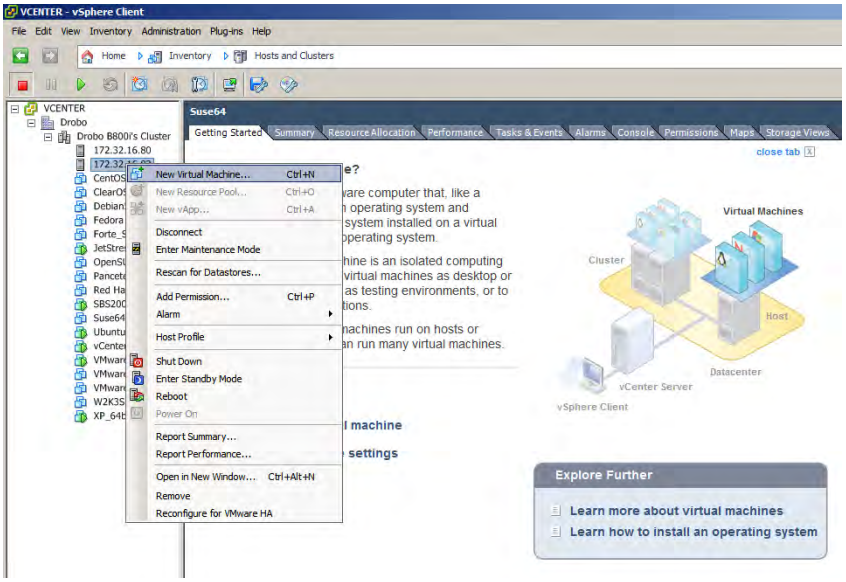
Recover to Virtual Environment (VMware ESXi) with Hardware-Independent Restore

When a server fails due to hardware, then the only option to regain access to the data that resided on the failed server is to restore the backup image onto another piece of hardware, or a virtual machine. Using a virtual machine to temporarily host the image from the failed server is the most cost-effective and fastest-to-recover solution. This of course assumes that a virtualization technology (for example, VMware) can be used. Within minutes the failed server will now be restored onto a virtual server, allowing access to the services/data that were on the failed server, as shown below.


SHADOWPROTECT.
Shadow Protect is installed on all servers, desktops and laptops
BACKUP
The backup process is a push of the data from the hosts onto the Drobo
The images of the hosts will reside on a network share within the Drobo
RESTORE
The restore process is a pull of the data from the Drobo onto the Vmware server, as a Virtual Machine

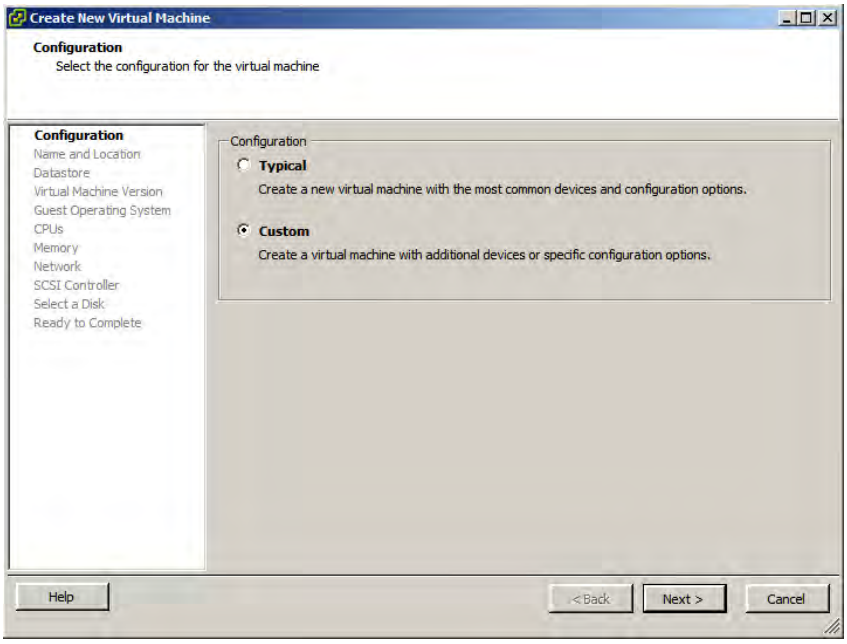
In the event that a restore to the server cannot be performed, that image that was backed up onto the Drobo can be restored as a virtual machine within VMware

STEP 1



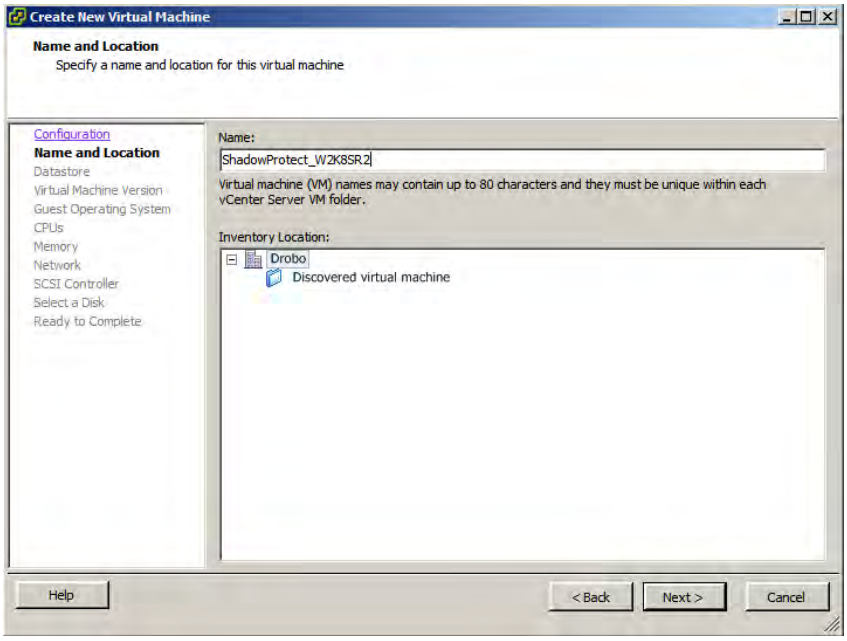
Log in to the VMware environment using vCenter and create a new virtual machine. (You can also use hosted versions of VMware, but this example uses vSphere/ESXi.)

STEP 2



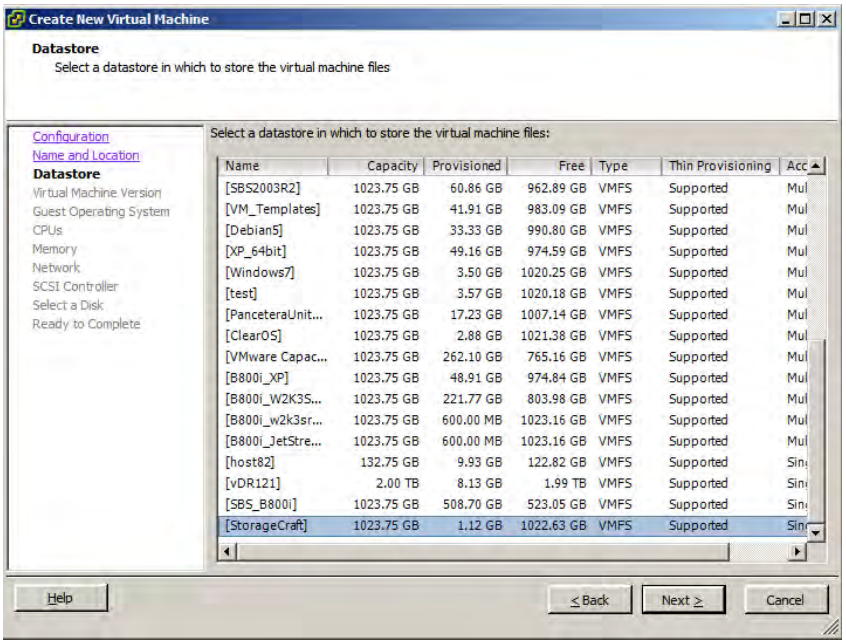
Select **Custom** configuration.

STEP 3



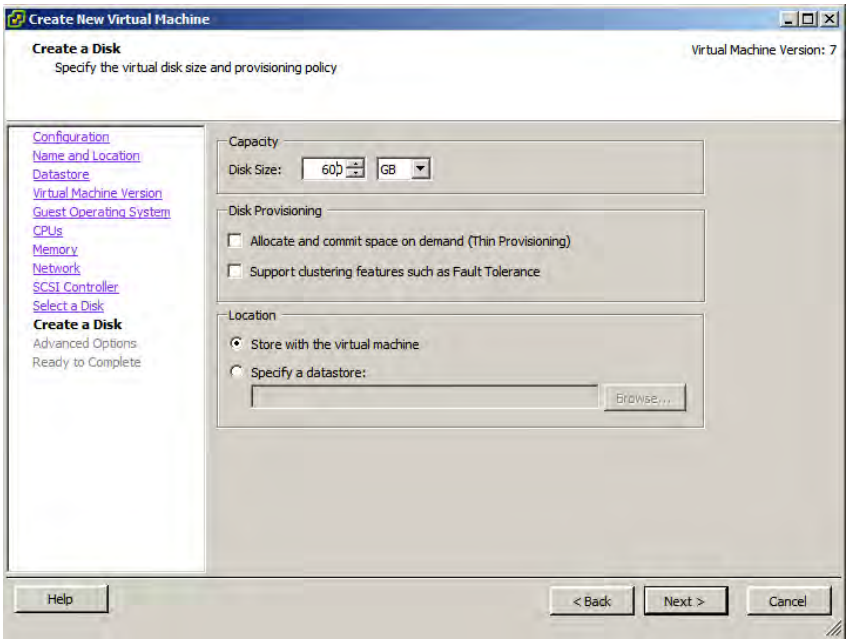
Enter a name for the virtual machine.

STEP 4


Create New Virtual Machine
Datastore
Select a datastore in which to store the virtual machine files
Configuration
Name and Location
Datastore
Virtual Machine Version
Guest Operating System
CPUs
Memory
Network
SCSI Controller
Select a Disk
Ready to Complete
Select a datastore in which to store the virtual machine files:
Name Capacity Provisioned Free Type Thin Provisioning
[SBS2003R2] 1023.75 GB 60.86 GB 962.89 GB VMFS Supported
[VM_Templates] 1023.75 GB 41.91 GB 983.09 GB VMFS Supported
[Debian5] 1023.75 GB 33.33 GB 990.80 GB VMFS Supported
[XP_64bit] 1023.75 GB 49.16 GB 974.59 GB VMFS Supported
[Windows7] 1023.75 GB 3.50 GB 1020.25 GB VMFS Supported
[test] 1023.75 GB 3.57 GB 1020.18 GB VMFS Supported
[PanceteraUnit... 1023.75 GB 17.23 GB 1007.14 GB VMFS Supported
[ClearOS] 1023.75 GB 2.88 GB 1021.38 GB VMFS Supported
[VMware Capac... 1023.75 GB 262.10 GB 765.16 GB VMFS Supported
[B800i_XP] 1023.75 GB 48.91 GB 974.84 GB VMFS Supported
[B800i_W2K3S... 1023.75 GB 221.77 GB 803.98 GB VMFS Supported
[B800i_w2k3sr... 1023.75 GB 600.00 MB 1023.16 GB VMFS Supported
[B800i_JetStre... 1023.75 GB 600.00 MB 1023.16 GB VMFS Supported
[host82] 132.75 GB 9.93 GB 122.82 GB VMFS Supported
[vDR121] 2.00 TB 8.13 GB 1.99 TB VMFS Supported
[SBS_B800i] 1023.75 GB 508.70 GB 523.05 GB VMFS Supported
[StorageCraft] 1023.75 GB 1.12 GB 1022.63 GB VMFS Supported
Help
< Back
Next >
Cancel

Specify the datastore location on where the VM will reside.

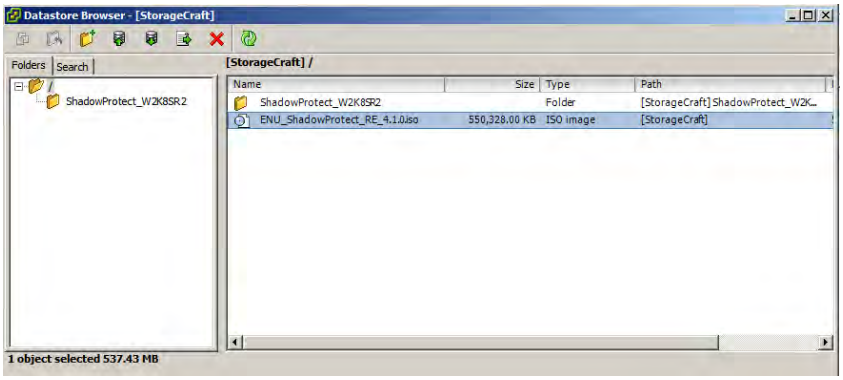
STEP 5



Specify the disk size for this virtual machine.

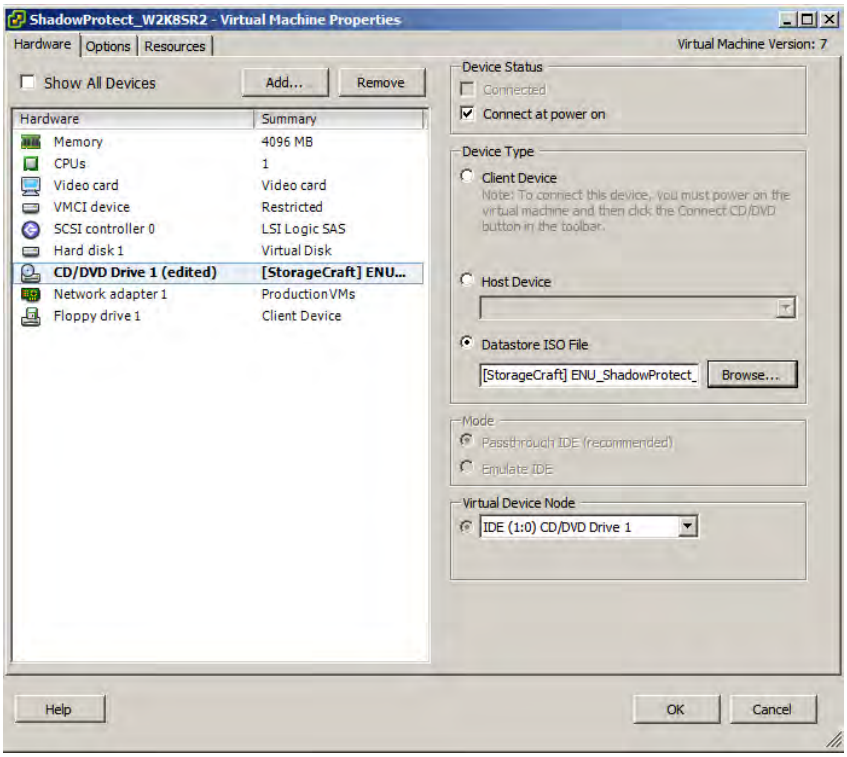
NOTE: The disk size must be equal to or larger than the size of the server's volume(s) to be restored onto the virtual machine. Under provisioning will cause the restore to fail.

STEP 6



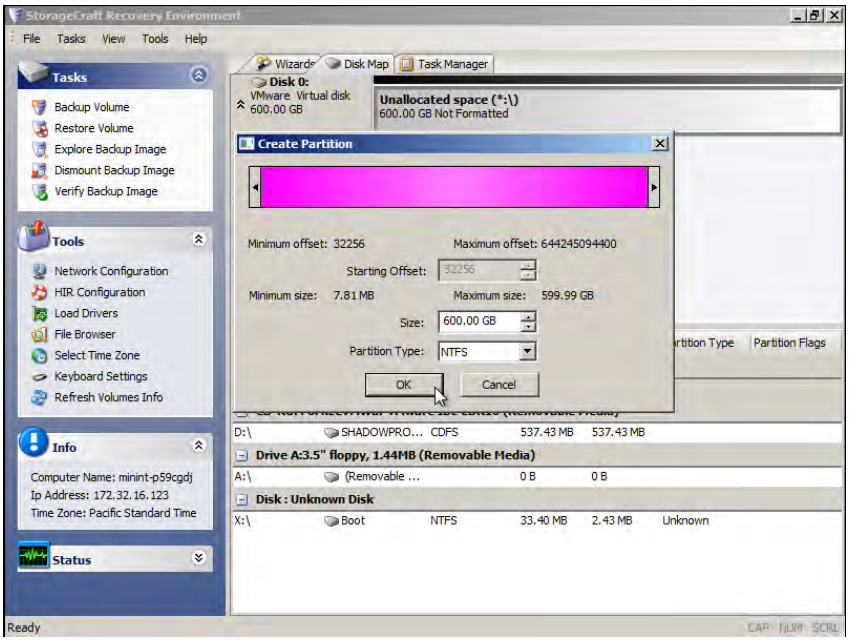
Upload the ShadowProtect bootable ISO file to the ESXi datastore.

STEP 7



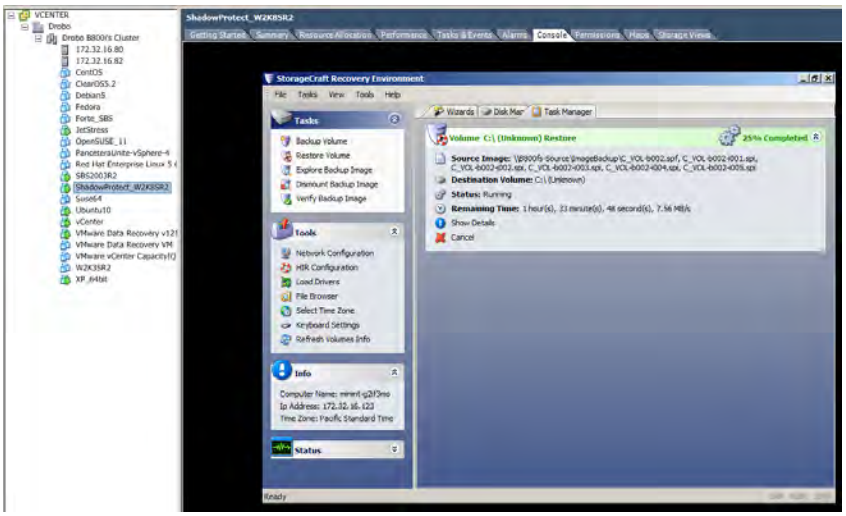
Edit the recovery virtual machine settings by specifying the location of the ShadowProtect bootable Recovery Environment ISO file.

STEP 8



Power on the recovery virtual machine to begin restores, see "Full Bare Metal Recovery" instructions section.

To start recovery to the virtual machine, perform one additional step. In the Disk Map tab, right-click on the VMware Virtual Disk and select **Create Partition**.



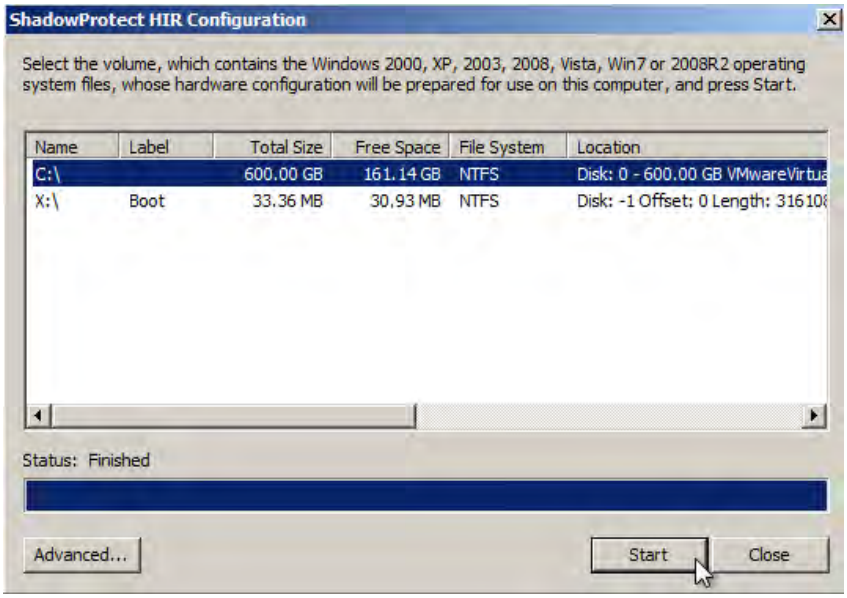
The status of recovery to the virtual machine is displayed.

STEP 9

Perform Hardware Independent Restore (HIR) to the new restore volume.

Click **HIR Configuration**, and then select the new restore volume (typically the C: drive.).

STEP 10



Click **Start**, and once the restore is complete, the status will be displayed as Finished.

Then simply close the ShadowProtect program and a reboot will follow.

It is recommend that you install VMware Tools after successfully rebooting and logging in.

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